

Docket No. 010374

Serial No. 10/057,689

REMARKS/ARGUMENTS

Prior to the present Reply, claims 1-39 were pending in the present application. No claims have been amended, added or canceled through this Reply. Accordingly, following the entry of this paper, claims 1-39 will be pending in the present application. Reconsideration of the present application is respectfully requested in view of the above amendments and following remarks.

Allowable Subject Matter

At the outset, it is noted that claims 25-26, 28-31, 33, and 36 stand allowed. Claims 5, 24, and 37-39 are objected to as being dependent upon a rejected base claim, but allowable if rewritten in independent form. Applicants appreciate the Examiner's indication of allowable subject matter. With respect to the objected-to dependent claims, Applicants decline to amend at this time, given the following remarks which point out the Applicants' belief that the corresponding independent claims are allowable. However, Applicants wish to preserve this option for the future.

Rejections under 35 USC § 102(e)

The Examiner has rejected claims 1, 6-8, and 34 under 35 USC § 102(e) as anticipated by U.S. Patent No. 6,341,140 to Lee et al. (hereinafter referred to as "Lee"). The rejections are respectfully traversed.

Independent claim 1 is directed to a parameter estimator comprising: (a) correlation logic for determining, using a dynamically variable integration time, a correlation function representing the correlation between a signal and one or more shifted versions of an identification code; and (b) analysis logic for analyzing the correlation function and estimating, responsive thereto, one or more parameter(s) relating to the signal. It is submitted that Lee does not teach each element of this claim.

Lee is directed to a code synchronization apparatus for use in a multi-carrier spread spectrum system, which uses multiple carrier frequencies. Code synchronization, as described at col. 2 lines 13-15, is the synchronization of the PN code in a received signal with a reference PN code locally generated in the receiver in a multi-carrier spread spectrum system. Importantly, Lee is directed to the synchronization of codes in such a system by a phase

Docket No. 010374**Serial No. 10/057,689**

adjustment of various carrier signals. As described at col. 3 lines 56-60, Lee teaches that a "test processor 26 receives symbols to be combined from the system controller 27. Then, it determines the phase of the PN code to be inputted to each of the non-coherent correlators 24-1 to 24-*m* from this information and then transmits it to the PN code generating apparatus 25." In this manner, the codes of the PN code generator 25 and the received signals may be synchronized. Importantly, Lee is devoid of any teaching of "analysis logic for analyzing a correlation function and estimating, responsive thereto, estimating one or more parameter(s) relating to the signal," as required by claim 1.

In fact, no correlation function is ever analyzed by Lee, and no signal parameters are estimated from such a function. The Examiner states at 2a of the Office Action that element 26 and 27 of Fig. 2 disclose analysis logic for analyzing the correlation function and estimating one or more parameters relating to the signal. However, the noted areas of Lee, namely col. 3 lines 55-61, and col. 4. lines 7-12, merely describe steps for the code synchronization. In particular, col. 3 lines 55-61, as discussed above, describes that a test processor (26) receives symbols to be combined from the system controller (27). The test processor (26) then determines the phase of the PN code and transmits this information to the PN code generating apparatus (described as element 25 and incorrectly referenced in Fig. 2 as element 26) that inputs this PN code to the correlators 24. Importantly, the test processor is, at most, determining correlation for the PN code generating apparatus. Lee goes on, at col. 4 lines 7-12 to describe that the integral period is determined in inverse proportion to the number of symbols to be combined. Applicants submit that this does not teach, as claimed, "a dynamically variable integration time," as the integral period is merely in inverse proportion to the number of symbols to be combined. Thus, Lee merely discloses reducing the integration period in situations where additional symbols are to be combined for speed purposes in proportion to the number of symbols present, which is not a dynamically variable time.

However, even assuming, *arguendo*, that this passage discloses a dynamically variable integration time, the referenced portions of Lee still do not teach "analysis logic for analyzing a correlation function and estimating, responsive thereto, estimating one or more parameter(s) relating to the signal," as required by claim 1. It is submitted that these portions Lee teach, at most, a correlation function only, with no analysis of the correlation function and estimation, responsive thereto, one or more parameters relating to a signal. No correlation function is ever analyzed by Lee, and no signal parameters are estimated from such a function.

Docket No. 010374**Serial No. 10/057,689**

Therefore, it is submitted that independent claim 1 is allowable for at least the reason that the cited reference fails to describe an estimation of one or more parameter(s) relating to the signal from a correlation function, as claimed. Dependent claim 6 which depends from claim 1 is similarly allowable at least because it contains the elements of claim 1. Claim 6 may include one or more independent bases for patentability, and the right to assert any such basis in the future is reserved. Applicants respectfully request that the rejections of claims 1 and 6 be reconsidered and withdrawn.

Independent claims 7, 8, and 34 contain recitations similar to claim 1 and, at least by virtue of this similarity, it is submitted that these claims are not anticipated by Lee. Therefore, Applicants respectfully request that the rejections of claims 7, 8, and 34 be reconsidered and withdrawn.

Rejections under 35 USC § 103

Claims 2-4, 9-23, and 35 were rejected under 35 USC § 103 as unpatentable over Lee in view of U.S. Patent No. 6,477,162 to Bayley et al. ("Bayley"). The rejections are respectfully traversed.

In order to establish a prima facie case of obviousness, the prior art references must teach or suggest all claim limitations. There must be some suggestion or motivation to modify the reference or combine the reference teachings. Also, there must be a reasonable expectation of success in the combination or modification. Applicant respectfully believes the references, either alone or in combination, fail to teach or suggest all claim limitations, and there is no motivation to modify the references in a manner that provides for the missing claimed features.

Claims 2-4 depend (directly or indirectly) from independent claim 1. Claim 1 is allowable because the cited reference, Lee, fails to teach all of the claim elements as set forth above. Bayley is directed to determination of integration intervals based on signal strength. Bayley does not describe, teach or suggest "analysis logic for analyzing the correlation function and estimating, responsive thereto, one or more parameter(s) relating to the signal." In fact, no correlation function is ever analyzed by Bayley, and no signal parameters are estimated from such a function. Thus, neither Lee nor Bayley, alone or in combination, teach or suggest an estimator as claimed. Therefore, it is submitted that dependent claims 2-4, which depend directly or indirectly from claim 1, are allowable for at least the same reasons as

Docket No. 010374**Serial No. 10/057,689**

discussed with respect to claim 1. Claims 2-4 may include one or more independent bases for patentability, and the right to assert any such basis in the future is reserved. Applicants respectfully request that the rejections of claims 2-4 be reconsidered and withdrawn.

Claims 9-15 depend (directly or indirectly) from claim 8. As discussed above, claim 8 is allowable because the cited reference, Lee, fails to teach all of the claim elements as set forth above. Bayley cannot be relied upon to describe the elements lacking in Lee at least for the reasons set forth above with regard to claims 2-4. Therefore, it is submitted that dependent claims 9-15, which depend directly or indirectly from claim 8, are allowable for at least the same reasons as claim 8. Claims 9-15 may include one or more independent bases for patentability, and the right to assert any such basis in the future is reserved. Applicants respectfully request that the rejections of claims 9-15 be reconsidered and withdrawn.

Regarding claims 16-23, independent claim 16 is similarly allowable because Lee and Bayley fail to teach or suggest the claim elements, again, for the reasons set forth above. Neither Lee nor Bayley, alone or in combination, teach or suggest "attempting to estimate, responsive to the first correlation function, one or more parameter(s) relating to the signal." Claims 17-23 depend (directly or indirectly) from claim 16. It is submitted that dependent claims 17-23 are allowable for at least the same reasons as claim 16. Claims 17-23 may include one or more independent bases for patentability, and the right to assert any such basis in the future is reserved. Applicants respectfully request that the rejections of claims 17-23 be reconsidered and withdrawn.

Independent claim 35 is similarly allowable for the reasons set forth above. Neither Lee nor Bayley, alone or in combination, teach or suggest "attempting to estimate, responsive to the first correlation function, one or more parameter(s) relating to the signal."

Therefore, claims 2-4, 9-23, and 35 are allowable because the cited references fail to teach or suggest that which is claimed. Applicants respectfully request that the rejections to these claims be reconsidered and withdrawn.

CONCLUSION

Applicants respectfully request that the Examiner reconsider the outstanding rejections and that these rejections be withdrawn. It is believed that a complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will

Docket No. 010374

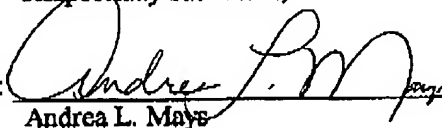
Serial No. 10/057,689

expedite prosecution of the application, the Examiner is invited to telephone the undersigned at the number provided.

Applicants therefore respectfully request that a timely Notice of Allowance be issued in this case.

Dated: February 17, 2006

Respectfully submitted,

By: 
Andrea L. Mays
Attorney for Applicant
Registration No. 43,721

QUALCOMM Incorporated
5775 Morehouse Drive
San Diego, California 92121-2779
Telephone: (858) 651-8546
Facsimile: (858) 658-2502